Geotourism:
A New Paradigm in Nature Conservation in Contemporary Japan

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Izu Peninsula Geopark

Abstract

This article explores the scope and challenges for geotourism in Japan by analyzing two Japanese geoparks. The article locates geotourism in Japan as a special form of Nature Based Tourism within the framework of the Tourism Area Life Cycle model. The two case studies are: the San-in Kaigan Geopark located at the Western seashore and and the Izu Peninsula Geopark located at the Eastern Pacific seaboard. Both geoparks are based on the theme of plate tectonics and formation of the archipelago—though between them, they show a very large variation of geological time, landscape features and areal extent. The article finds that revitalization of local economies is a prominent agenda in both geoparks. Geoconservation, on the other hand, has not matured adequately in these destinations. The case studies suggest integration of geological and ecosystem evaluation for better conservation and sustainable geotourism management in the concerned areas.

1. The Tourism Area Life Cycle Model for Japan and the Emergence of Geotoursim

Butler (2006)'s Tourism Area Life Cycle (TALC) model is one of the most powerful concepts for analyzing historical and contemporary trends in tourism destinations. The model can be used for a region or for a country in general, to analyze trends of particular types of tourism. TALC is represented by 7 'stages'—Exploration, Involvement, Development, Consolidation, Stagnation, Rejuvenation, and Decline. This model is applicable for various types of Nature Based Tourism (NBT). However, in most advanced capitalist and industrialized countries, nature is already heavily modified by human agents, and it can be argued that there is no pristinely 'natural' landscape. Nature based tourism destinations have been explored and developed to a very high degree, this is true for even the

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seemingly 'remote' natural monuments like the Grand Canyon in the US, the Alps in Europe or World Heritage Sites site Yakushima Island in Japan—when we consider the angle that 'development' needs not be the presence of infrastructure in the destination itself, but can assume forms of highly mobile travel infrastructures such as airports or ferry stations, information points with modern communication facilities and modern lodging facilities. Thus, in the 21st century NBT destinations in the developed world are faced with the challenges of the later stages in the NBT cycle: some strive to 'rejuvenate' themselves after a period of 'stagnation', while others are clearly in 'decline' in terms of attracting visitor numbers compared to the 'development' and 'consolidation' phases and must find innovative solutions to avoid this last stage of TALC. Butler's model allows for the prospect of rejuvenating stagnated or declining destinations, in the sense that the final two stages are seen as 'interchangeable,' depending on policy input or management practice.

Jones (2012) has outlined the process of TALC development and maturity for Japanese NBT destinations. He emphasizes that the country is at a crossroads as far as NBT is concerned. His discussion centers on the case of national parks in the country—how they were developed and consolidated throughout the last century, and face inevitable decline today. Jones holds that an integration of other aspects of natural area tourism such as rural tourism or satoyama rejuvenation concepts into the overall NBT fold is important. He observes that despite the growth and maturity of the TALC in Japan, NBT destinations have not attained their full potential and argues for a two-pronged approach based on 'grandstand' venues like World Heritage Sites or national parks (the number of which are fixed or alter very slowly) and more familiar nature recreation spots like the satoyama (this type of tourist destinations have seen a rapid increase of numbers recently).

Geotourism as form of NBT or 'alternative tourism' is a recent development. Newsome et al. (2012) describe geotourism as …"geologically focused, environmentally educative… and fostering local community beliefs" (21). Geotourism typically takes place in 'geoparks'—areas that can comprise of one or more national parks, UNESCO World Heritage Sites, multiple administrative units or even multiple national units—brought together by a common geological theme (UNESCO, 2010). However, as most geoparks are managed at the national level, the following definition of geoparks is

commonly used: "…a nationally protected area containing a large number of geological heritage sites of particular importance, rarity or aesthetic appeal" (UNESCO, 2006, in Newsome et al. 2012). Initially geotourism was seen as a special type of tourism strictly based on the geological features (often termed geoheritage) of a given destination (Hose, 1995) but the concept gradually grew to encompass various landscape level features, processes, social and cultural involvement with nature and traditional interpretation of phenomena (Gray, 2013). Geoparks of late are also seen as vehicles for 'regional rejuvenation', particularly in countries like Japan—which has seen rapid depopulation and economic decline in rural and remote areas (for decline in rural Japan, see Matanle, Rausch and the Shrinking Regions Research Group, 2011). Geoparks are divided into two 'types'—National Geoparks that are seen as valuable sites for preserving and popularizing geological heritage at the national level (primarily aimed at tourists from the same country) and Global Geoparks that are members of the Global Geoparks Network (selected geoparks from the national profile that are seen as having universal geoheitage value and tourism potential outgrowing national boundaries). Gray (2013) and Prosser (2013) have emphasized that geotourism must be careful of visitor impacts on geological heritage, and must address the issue of conserving geoheriateg for future generations.

To summarize this discussion, NBT in developed countries like Japan can be seen as either in 'stagnation' or 'decline' and tourism managers must find innovative solutions for rejuvenating NBT destinations. Geotourism has emerged as one of the alternatives—and has quickly become popular at the national level. Geoparks are also interesting in the sense that they apparently have the potential to integrate grandstand venue based tourism and local initiatives like satoyama-tourism or rural destination branding. Japan to date has 33 geoparks, 6 of them are registered with the GGN network. The following sections discuss two geoparks—the San-in Kaigan Geopark in Tottori, Hyogo and Kyoto Prefectures (a GGN member geopark) and the Izu Peninsula Geopark (a national geopark aiming for GGN membership as of 2014 January). The case studies are based on the author's field visits to both locations, and ongoing research in the Izu Peninsula Geopark. Interviews, group discussions, on-site observations and literature review were used as methods—and the overall research framework is qualitative.

2. Case Studies

2.1 San-in Kaigan Geopark:

The San-in Kaigan Geopark is a prominent example of the integrative scope of geotourism: covering an area of 2186 sq.km across Tottori, Hyogo, and Kyoto Prefectures. (San-in Kaigan Geopark, n.d.). The area provides some of the oldest rock outcrops in a Japanese seacoast that formed about 25 million years ago. A part of the coast was earlier located within the Eurasian landmass, making it possibly the oldest rock strata of Eurasian origin in Japan available for touristic purpose.

The San-in Kaigan geopark possesses a varied set of landscape diversity, which is obvious given its extent. Although the main theme of the geopark is the ancient rock strata found in the area (geoheritage dating back to the time when a part of Japan was attached to the Eurasian landmass) and the creation of the Sea of Japan—the theme is broad enough to include landscape, ecosystem and cultural diversity found in the area. Some of the landscape diversities represented are not geological heritage in terms of strict definition, but are results of landscape level processes. Typical geoheritage attractions in the geopark include sea caves, stacks and stumps, columnar joints and eroded coastline, complemented by sand dunes and waterfalls. The Tottori Sand Dunes—the only 'desert' landform in Japan are a major attraction, though these dunes are actually accumulated sand on the seacoast.

During the field trip to this area and in the course of literature search, the author found that the San-in Kaigan Geopark is one of the prominent examples of a global geopark in Japan, in the sense that the ambience of this geopark promotes geodiversity evaluation over a large area. A major achievement of this geopark is the unification of three prefectures, Tottori, Hyogo and Kyoto—on the issue of geopark promotion and management. Tourism is seen favorably in the region in general, and due to the general low population density, geotourism has quickly been accepted as a policy focus. The San-in Kaigan Geopark has a number of famous tourist destinations, such as the Tottori Sand Dunes, the Old Iwami Silver Mine, and the Tateiwa Rock in the Kyotango City area. These are tourism attractions on their own, and there is no other feasible utilization of these resources except for the touristic purpose. The existence of landforms or

landscape features of high geoheritage value alone is not sufficient for a geopark area to promote them, as there are often competing interests for their utilization. In some cases, the landforms or landscape features fare poorly as tourist resources due to infrastructure development or proliferation of built environments in adjacent areas. Luckily for the Sea of Japan area, such human impact is generally low. This geopark also deserves credit for promoting scientific evaluation of a part of its geoheritage—it operates a fund aiding research on geoconservation and education. As a result, the geopark has been able to create a good network of local and national universities, although most research outcomes are not displayed on the website, making it difficult to assess the quality of research output on the geopark. Information in English is very limited, which is not adequate for a global geopark of San-in Kaigan's profile. The problem with the English website contents is hardly unique to this geopark, Japanese geoparks in general lack adequate English language resources to promote their geoheritage abroad. When it comes to efforts at stimulating local economies, the San-in Kaigan Geopark fares rather well, local industries have also come to the forefront in promoting the geopark through innovative solutions, painting local trains with geopark themes is one example. This is mainly aimed at promoting inbound tourism, apart from raising popular awareness of the geopark—but a demographic trend reversal in the rapidly depopulating region looks unlikely.

2.2 Izu Peninsula Geopark:

The Izu Peninsula Geopark is based on theme of tectonic movement of plates and the creation of landform. Izu Peninsula is a landmass located in the Shizuoka Prefecture, south of Tokyo. Geological research has made it clear that the peninsula, now a seemingly integral part of the main Japanese island of Honshu, was a submarine volcanic island in the Southern sea about 20 million years ago (Izu Hantô Geopark, n.d.). The eastern seaboard of Japan coincides with an active plate boundary—the Pacific Plate sinks below the Philippine Sea Plate, and the Philippine Sea Plate is slowly moving northwards, where two other plates, the Eurasian Plate and the North American Plate, form most of the northern part of the Japanese archipelago.

The Izu Peninsula is located at the northern tip of the Philippine plate extension into Honshu—the peninsula shares its geological characteristic with the numerous small islands that form the Izu-Ogasawara Arc of volcanic islands. As this area is very active in geological terms, the landforms are relatively recent compared to the ancient rock strata seen in the San-in Kaigan Geopark. It is estimated that the northward traveling tip of the volcanic island that subsequently became Izu collided with Honshu about 600,000 years ago, and the peninsula got its present form only about 100,000 years ago.The Izu Peninsula offers an impressive diversity of volcanic landforms (landform types created out of submarine volcanism, complex terrestrial volcanism and monogenetic volcanism can be observed in the peninsula). The landscape created from this collision has nurtured unique ecosystems and cultures that are distinct from the ones found in adjacent locations—the Japanese Beech (*Fagus crenata*) forest found in the Amagi Range located in the middle of the peninsula, a large variety of marine life inhabiting the deep Sagami Bay trough (East) and Suruga Bay trough (West), as well as juniper vegetation hundreds of years old, marshland, springwater flowing through the lava of Mount Fuji, and the cultivation of 'wasabi' horseradish in the clear streams are all examples of unique ecosystems and cultural practices of this area. Izu was referred to as a 'park' by the Nobel Prize winning writer Kawabata Yasunari, and the peninsula is a favorite for holidaymakers for its numerous hot springs (onsen).

A major strength of the Izu Peninsula Geopark is the number of geo-guides in the region. As of December 2013, a total of 73 guides were engaged in providing easy to understand interpretations of geological phenomena, and 52 others were awaiting official recognition as geo guides. Izu has made significant strides to promote earth sciences for society—high schools like Izu Sôgô High School and Matsuzaki High School have incorporated geo tours and explanations of geological landforms as parts of their curricula, and the earthquake prone nature of the area has encouraged citizens to take part in various natural disaster awareness training programs, a part of which was conducted by the Shizuoka University.

However, the area faces numerous challenges for the development of geotourism as a form of alternative tourism. Most visitors (approximately over 70%) are from the Kanto region, with a large proportion coming from the Tokyo Metropolitan Area, and this has resulted in a consistent

prioritization of smooth traffic access. The area is already very developed when compared to the San-in Kaigan Geopark, or global geoparks in other parts of the world—and is affected by a very large urban footprint, either directly linked or indirectly associated with the geopark destination. Mass tourism has been the prominent mode of tourism in this part of Japan, and with the presence of Tokyo nearby, this trend will continue in the foreseeable future. Another problem has been the small extent of 'protected areas'—only a small section of the geopark is legally protected as a part of the Fuji-Hakone-Izu National Park. This makes the formulation of an effective land management and conservation plan a priority task for this geopark.

3. Conclusion

While the two geoparks discussed in this article are distinct in their geological themes, areal extent and locations, the cases provide some common points on geotourism. So far, most activities in the geoparks are geared towards attracting 'more' tourists—and this focus on numbers have favored mass tourism based approaches. As Shikida (2008) points out, mass tourism is often 'projected onto' a region—thus straining its natural environment. Geoparks are not free of this problem. As for conservation of geodiversity, this agenda has usually lagged behind tourism infrastructure development—Japanese geoparks are hardly an exception in this regard, studies by Whiteley and Browne on geoparks in England (2013) and Erikstad (2013) on European geoparks also highlight this issue. A unique feature of Japanese geotourism appears to be its expected role of 'regional revitalization,' but this has mixed bodings for geoparks. Some researchers have advocated geoparks as 'regional brands' (Hirano, 2008)—evidently favoring yet more marketization of geotourism. A major need for both geoparks is fast implementation of ecosystem appraisals or visitor impact surveys. Geoparks must effectively deliver on the agenda of geoheritage conservation—and this requires careful monitoring of visitor impact, not only on the landforms in the major destinations but also on the ecosystems. Koizumi (2013) has pointed out the need for geo-ecosystem appraisal, integrating the value of geoheritage such as rock strata or volcanic landforms with the ecosystem services provided by the landscapes—this can be taken as a guideline for geotourism planning and implementation.

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